Alabama Hurricane Preparedness 2010 Guide

Rip current danger before the storm!

Hurricane affects in inland counties.

Evacuation information for coastal counties.

Food safety when you just can't keep it cold.

Do you know how to safely use a generator?

NOAA National Oceanic and Atmospheric Administration U.S. Department of Commerce

Alabama EMA Emergency Management Agency

National Weather Service

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on the cover
Enhanced photo of Hurricane Katrina from NASA

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A Message to You

From the Governor of Alabama

Time after time, Alabamians have shown their remarkable courage as hurricanes have ravaged our state. Even in times of horrible tragedy and need, Alabamians have banded together to provide relief and comfort to those affected by the devastation caused by severe weather.

I am pleased to join with the Federal Emergency Management Agency, the National Weather Service, and the Alabama Emergency Management Agency and all hurricane prone states in declaring May 23-29, 2010, as "Hurricane Preparedness Week."

It is extremely important for all of our citizens to be prepared as they can be for emergencies. Hurricane Preparedness Week will focus on many hurricane-related subjects, and this information can prove invaluable to Alabama's citizens and our visitors in preparing a family disaster plan. I encourage you to take advantage of the information provided to protect your families and your property.

Bob Riley
Governor, State of Alabama

From the National Weather Service

Last year we in Alabama were fortunate that we did not have a major tropical system impact our coast. We were however, directly and negatively affected by tropical cyclones such as Claudette and Ida. Ida occurring so late in the season was a reminder that from June 1 through November 30 we must be prepared and vigilant for tropical cyclones to affect our state.

Do you live in an area where evacuation might be necessary due to a hurricane strike, or do you live in an area where you would be better off riding out the storm in your home? Do you know what items should be included in your hurricane survival kit?

Hurricane Preparedness Week is conducted each year in Alabama, prior to hurricane season, to encourage coastal residents to ask themselves these questions, and to help them come up with the right answers. The National Weather Service, with our partners within the Alabama Emergency Management Agency, will work with you to make sure that you have the answers to questions like the ones above. They key is to **BE PREPARED BEFORE** a hurricane threatens. If you wait until the last minute to find your answers, it may be too late.

David McShane, Meteorologists-In-Charge
National Weather Service, Mobile

From the Alabama Emergency Management Agency

The Alabama Emergency Management Agency (AEMA) is pleased to join Governor Bob Riley and the National Weather Service to encourage Alabamians to evaluate their readiness level as we approach the 2010 hurricane season. It is important to highlight that hurricanes are not just a coastal problem. While storm surge associated with hurricanes has the highest potential to cause death and destruction along our coast, other tropical hazards such as heavy rain, high winds, and tornadoes can impact the entire state of Alabama.

The key to Alabama's successful response and recovery during a hurricane event is citizen preparedness. Plan how you will communicate with and protect your family before disaster strikes. Please visit our Web site to create a family emergency plan by clicking on www.ema.alabama.gov. From the website, we invite you to also take our preparedness survey and to visit our new Risk Analysis Tool.

To identify the specific hurricane hazard vulnerabilities in your area, reach out to your local emergency management director for more preparedness information. Local emergency management contact information can also be found on our website by clicking the county EMA tab.

Follow us on twitter (@AlabamaEMA) for emergency information and preparedness tips.

Brock Long, Director
Alabama Emergency Management Agency

About Hurricanes

Hurricanes and tropical storms form over warm ocean waters, like those found in the Gulf of Mexico during the summer and fall of each year. On average, 11 tropical storms, 6 of which become hurricanes, develop in the Atlantic basin each hurricane season, which runs from June 1st to November 30th. The peak hurricane threat for the Alabama coast is in August and September, but hurricanes can strike the coast during every month of the hurricane season. Everyone in Alabama needs to be prepared for hurricanes and tropical storms. Even inland areas, well away from the coastline, can experience destructive winds, tornadoes and floods from tropical storms and hurricanes.

Seven hurricanes have directly struck the Mobile Bay region of Alabama since 1990. That is, on average, about one hurricane landfall every three years. There have been several other hurricanes that did not make a direct hit on the area, but did produce some adverse affects on the region. In addition, numerous tropical storms have also impacted the region during that time period.

Recent hurricane landfalls within a 100 mile radius of Mobile Bay. (1990-2009)

Tropical Cyclone Product Definitions

- Tropical Depression: An organized system of persistent clouds and thunderstorms with a closed low-level circulation and maximum sustained winds of 38 mph or less
- Tropical Storm: An organized system of strong thunderstorms with a well defined circulation and maximum sustained winds of 39 to 73 mph.
- Hurricane: An intense tropical weather system with a well defined circulation and maximum sustained winds of 74 mph or greater.
- Tropical Cyclone: A general term used to describe a tropical depression, tropical storm or hurricane.
- Hurricane/Tropical Storm Watch: Hurricane or Tropical Storm conditions are possible in the watch area within 48 hours.
- Hurricane/Tropical Storm Warning: Hurricane or Tropical Storm conditions are expected in the warning area within 36 hours.
- Extreme Wind Warning: Short duration warnings issued by the NWS to provide the public with advance notice of the onset of extreme sustained winds of a major hurricane, usually associated with the eyewall of the hurricane.

New for the 2010 Hurricane Season

The National Hurricane Center (NHC) will be implementing several changes in some of its terminology, text and graphical products during the upcoming 2010 hurricane season. These changes are part of a continuing effort at the NHC to expand and enhance its level of service. Some of the changes for the 2010 season that will be most notable to the user include:

- Providing greater lead time for tropical cyclone watches and warnings. Advances in observational capabilities, numerical weather prediction, and forecaster tools over the past two decades have enabled the NHC to make more accurate track forecasts. Over the past 15 years, average NHC forecast track errors have been cut in half. As a result of this progress, tropical storm and hurricane watches and warnings for threatened coastal areas will be issued 12 hours earlier than in previous years. Beginning in the 2010 Hurricane Season, Tropical Storm/Hurricane **WATCHES** will be issued when such conditions are ***possible*** within 48 hours. Tropical Storm/Hurricane **WARNINGS** will be issued when such conditions are ***expected*** within 36 hours. More information can be found at http://www.nhc.noaa.gov/watchwarn_changes.shtml
- The Saffir-Simpson Hurricane Wind Scale will become operational. The scale keeps the same wind speed ranges as the original Saffir-Simpson Scale for each of the five hurricane categories, but no longer ties specific storm surge and flooding effects to each category. Changes were made to the Saffir-Simpson Scale because storm surge values and associated flooding are dependent on a combination of the storm's intensity, size, motion and barometric pressure, as well as the depth of the near-shore waters and local topographical features. As a result, storm surge values can be significantly outside the ranges suggested in the original scale, as recent hurricanes such as Ivan, Katrina and Ike has demonstrated. More information can be found at the following web sites:

  http://www.noaanews.noaa.gov/stories2010/20100217_hurricane.html

  http://www.nhc.noaa.gov/aboutsshs.shtml
- The format of the Tropical Cyclone Public Advisory is changing. The most significant changes are:

  - The Public Advisory will be organized into sections.
  - The summary section of the advisory will move to the top of the product.
  - The Watch and Warning information will be organized differently and be presented in bullet format.

For a complete summary of all of the changes for the 2010 season, visit the National Hurricane Center website at:

http://www.nhc.noaa.gov/nhc_new_2010.shtml

The Saffir-Simpson Hurricane Wind Scale

- Category 1—Winds 74 to 95 mph
- Category 2—Winds 96 to 110 mph
- Category 3—Winds 111 to 130 mph (major hurricane)
- Category 4—Winds 131 to 155 mph (major hurricane)
- Category 5—Winds greater than 155 mph (major hurricane)

Hurricane Forecasts

The National Hurricane Center (NHC) in Miami, Florida, is the official source for tropical cyclone advisories and forecasts, and is responsible for issuing tropical cyclone watches and warnings for the United States.

Additional Weather Information

National Weather Service, Mobile, AL: www.srh.noaa.gov/mob
National Hurricane Center: www.nhc.noaa.gov

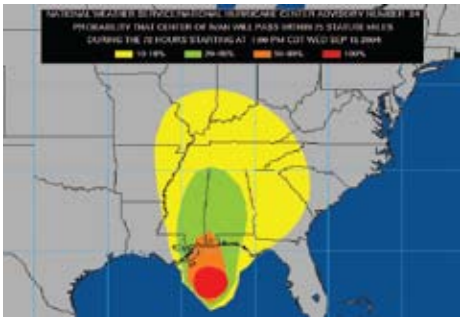
National Weather Service office, Mobile, (above) during hurricane activation (left) issuing a weather warning or watch

Some commonly used Tropical Cyclone Products

Public Advisories
Forecast Advisories
Forecast Discussions
Wind Speed Probability Forecasts
Tropical Weather Outlooks
Hurricane Local Statements
Tropical Storm/Hurricane Wind Watches and Warnings
Extreme Wind Warnings

Utilizing and Interpreting NHC's Forecast Advisory

- The white uncertainty cone of the forecast advisory represents the 10-year average error. The center of the tropical cyclone will remain in the white error cone only 67% of the time.
- Remember that hurricane conditions can be felt hundreds of miles away from the center of the storm.
- **DO NOT** focus solely on the exact forecast track!
- **DO NOT** wait for a hurricane watch or warning before implementing your initial preparations, as it may be too late to complete them.



Examples of NHC Graphics for Hurricane Season *(clockwise from top left)*

Tropical Storm Advisory graphic—Cone of Uncertainty
Cummulative Windfield (updated with each advisory)
Wind Speed Probability Forecast
Extreme Wind Warning done for CAT 3-5 Hurricanes—Immediate Warning

Winds and Tornadoes

Hurricane force winds of 74 mph or more can destroy buildings, mobile homes, trees and power lines. Debris such as signs, roofing material, siding and small items left outside become dangerous and damaging flying missiles during a hurricane. Winds associated with a hurricane are most intense near the center of the storm, in a region called the eyewall. As a hurricane moves inland winds begin to rapidly decrease, but hurricane force winds can be felt as far as 150 miles inland. A general rule-of-thumb is wind speeds will decrease by 50% within the first 12 hours of landfall. Therefore, the faster the hurricane is moving, the further inland the hurricane force winds will be experienced.

It is imperative to ensure that your home is well constructed to minimize the damage from wind. See the important home preparation tips elsewhere in this guide for a few cost effective home improvement tips that can help you reduce your damage from a hurricane.

Hurricanes can also produce tornadoes, which add to the storms destructive power. Tornadoes are most likely to occur in the right-front quadrant of the hurricane, and are often found embedded in the rainbands well away from the center of the storm. However, they can also occur near the eyewall. Some hurricanes seem to produce no tornadoes, while others develop multiple ones. Studies have shown that more than half of the landfalling hurricanes produce at least one tornado. In 2004, Hurricane Ivan, which made landfall on the Alabama Gulf coast, spawned 117 tornadoes over a three day period, eight of which occurred in Alabama. Tornadoes associated with hurricanes are generally less intense than those that are produced by supercell thunderstorms, but when added to the larger area of hurricane-force winds, they can still produce substantial damage and be potentially deadly.

MOBILE HOME RESIDENTS MUST EVACUATE!!!

- No mobile home or manufactured home-no matter how new it is-can provide safe shelter from hurricane force winds.
- Straps or other tie-downs will not protect a mobile home from the high winds associated with a hurricane.
- Mobile home residents must evacuate when told to do so by local authorities.

Did you know?

The NOAA seasonal outlook for hurricane season will be issued on May 20, 2010, and can be found at http://www.cpc.noaa.gov/products/hurricane/

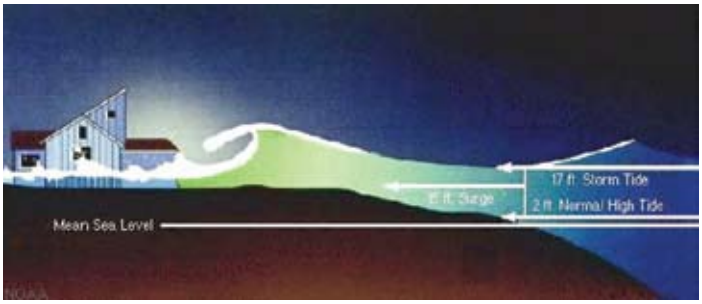
Storm Surge

The greatest threat to life and property along the coast from a hurricane is typically storm surge. Historically, storm surge claims nine out of ten victims along the shoreline. The deadliest natural disaster in U.S. history occurred during the hurricane of 1900 that struck Galveston, Texas where approximately 8000 people lost their lives, due mostly in part to storm surge flooding. In 2005, Hurricane Katrina claimed 1300 lives in Louisiana and Mississippi with significant storm surge flooding from New Orleans as far east as the Mobile Bay area.

Storm surge is simply an elevated dome of water above normal sea level that is built up and pushed toward the shore by the force of the winds blowing around the tropical cyclone. This advancing surge combines with the normal tides to create the storm tide, which can increase the mean water level by tens of feet. For example, if normal astronomical tide is 2 feet, and the hurricane produces a surge of 15 feet, then the total storm tide will be 17 feet.

In addition, wind driven waves are superimposed on top of the storm tide level. Wave and current action associated with the storm tide can cause extensive damage. Water weighs approximately 1,700 pounds per cubic yard. Extended periods of pounding by large waves on top of the storm tide can demolish any structure not specifically designed to withstand such forces.

The rise in water level can cause severe flooding in coastal areas, particularly when the storm tide coincides with the normal high tides. Because the Alabama Gulf Coast lies less than 10 feet above mean sea level, the danger from damaging storm tides is significant.



The level of surge in a particular area is also determined by the slope of the continental shelf. A shallow slope off the coast, such as along the Alabama Gulf Coast, will allow a greater surge to inundate coastal communities. Communities with a steeper continental shelf (such as along portions of Florida) will not see as much surge inundation, although large breaking waves can still produce significant dangers (as we saw with Hurricane Opal in 1995 along the Florida Panhandle).

In general, the more intense the storm, and the closer a community is to the right-front quadrant, the larger the area that must be evacuated. The problem is always the uncertainty about how intense the storm will be when it finally makes landfall, and exactly where it will make eventual landfall. Emergency managers and local officials balance that uncertainty with the human and economic risks to their community. This is why most emergency managers plan for a storm one category higher than what is forecast. This is a reasonable precaution to help minimize the loss of life from hurricanes.

Storm tides, waves, and currents in confined harbors severely damage ships, marinas, and pleasure boats. The currents created by the tide combine with the action of the waves to severely erode beaches and coastal highways. Many buildings can withstand hurricane force winds until their foundations, undermined by erosion, are weakened and fail.

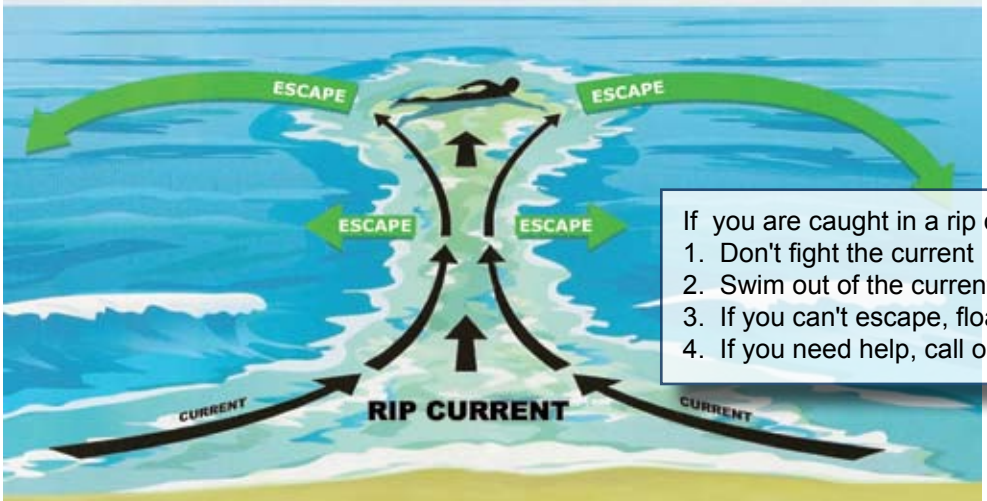
In estuaries and bayous, intrusions of salt water endanger the public health and send animals, such as snakes, to flee from flooded areas and take refuge in urban areas.

Did you know?

Residents in Mobile and Baldwin counties can use the Risk Analysis Tool on the Alabama Emergency Management Agency website to determine their storm surge risk.

Rip Currents

Break the Grip of the Rip!



If you are caught in a rip current:
1. Don't fight the current
2. Swim out of the current, then to shore
3. If you can't escape, float, or tread water
4. If you need help, call or wave for assistance

Rip currents are powerful currents of water moving away from shore. They can sweep even the strongest swimmer out to sea.

Rip Currents are likely to be present in the high winds and rough seas that accompany a tropical storm or hurricane, so people should stay out of the water when a storm is approaching their area. A Rip Current is a channelized current of water flowing away from the shore that develops when excess water is piled against the shore during certain weather patterns. Rip Currents are dangerous because they can pull unprepared swimmers away from shore and into deeper waters. A rip current can become deadly when swimmers panic and struggle against the current while being pulled farther and farther away from the beach.

It has been observed that a tropical cyclone does not have to be directly affecting the area for dangerous rip currents to develop along the coast. Anytime a tropical system is in the Gulf of Mexico, even if centered a great distance from the Alabama coast, large swells and above normal tides well in advance of the storm could still combine to produce dangerous rip currents along Alabama's beaches. As a result, many beachgoers will likely be at risk of getting caught in a rip current even though the weather appears tranquil at the time, and no evacuation orders have as yet been given.

Rip Current Safety Information

When you take a trip to the beach, there are a few things that you can do to protect yourself from the dangers of rip currents. You should swim at beaches with lifeguards, if possible. When you arrive at the beach, ask the lifeguard about the rip current risk. Also note any flag warning system that may be present. If you find yourself caught in a rip current, DO NOT panic and DO NOT swim against the outgoing current. Doing either of these could cost you your life. Since most rip currents are relatively narrow, you should swim in a direction parallel to the shoreline to escape the outgoing current. More simply, if caught in a rip current, and facing back toward the beach, swim either to your LEFT or RIGHT to escape the current. Just remembering the simple phrase **"DON'T FIGHT…SWIM LEFT OF RIGHT**" could save your life. Once free of the outgoing current, swim at an angle back to the beach.

Be Safe! • Know how to swim • Never swim alone • If in doubt, don't go out

Inland Flooding

When it comes to hurricanes, wind speeds do not tell the whole story. Hurricanes produce storm surges, tornadoes, and often the most deadly of all - inland flooding. In fact, over the past 30 to 40 years, inland freshwater flooding has killed more people than has any other tropical cyclone related weather hazard. Intense rainfall is not directly related to the wind speed of tropical cyclones. In fact, some of the greatest rainfall amounts occur from weaker storms that drift slowly or stall over an area. Very slow moving tropical storms and hurricanes can produce tremendous rains of 20 to 30 inches or more in a very short amount of time, resulting in disastrous flooding. Inland flooding can be a major threat to communities hundreds of miles from the coast.

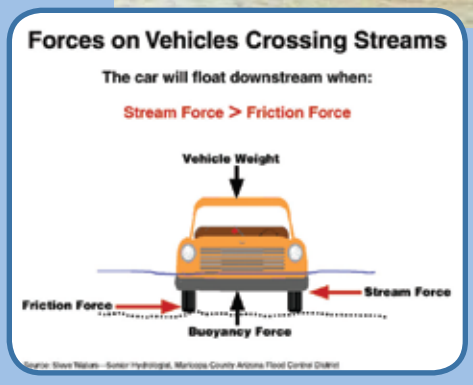
What can you do?

picture from Alabama Forestry Commission

- When you hear hurricane, think inland flooding.
- Determine whether you live in a potential flood zone.
- **If advised to evacuate, do so immediately.**
- Keep abreast of road conditions through the news media.
- Move to a safe area before access is cut off by flood water.
- Do not attempt to cross flowing water. As little as six inches of water may cause you to lose control of your vehicle.
- Develop a flood emergency action plan.
- Have flood insurance. Flood damage is not usually covered by homeowners insurance. Do not make assumptions. Check your policy.

Statistics clearly point out the high risk of driving in and around flooded roads and low spots. Often, individuals will attempt to drive through flooded roads only to be whisked away by rushing waters. The rule is simple: If you cannot see the road or its line markings, do not drive through the water.

Some statistics to remember if you are ever faced with the decision of crossing a flooded roadway.



≈ As little as one foot of water can move most cars off the road.

≈ Just six inches of fast-moving flood water can sweep a person off his or her feet.

≈ Most flood-related deaths occur at night and are vehicular.

≈ Urban and small stream flash floods often occur in less than one hour.

≈ Tropical cyclones pose significant risk well inland due to fresh water flooding.

NWS All Hazards Weather Radio

NOAA Weather Radio All Hazards (NWR), the official "voice" of the National Weather Service (NWS), provides updated weather information continuously, 24 hours a day, 365 days a year. Watches, warnings, advisories, forecasts, current weather conditions, and climate data are broadcast in three to five minute cycles on NWR stations across the nation.

To listen to NWR broadcasts, a special radio capable of receiving signals in the Very High Frequency (VHF) public service radio band is required. Seven frequencies from 162.400 to 162.550 megahertz (MHz) are used. Weather radios can be purchased at most electronics stores and online. Prices of these radios vary from location to location and depend on the type of radio purchased.

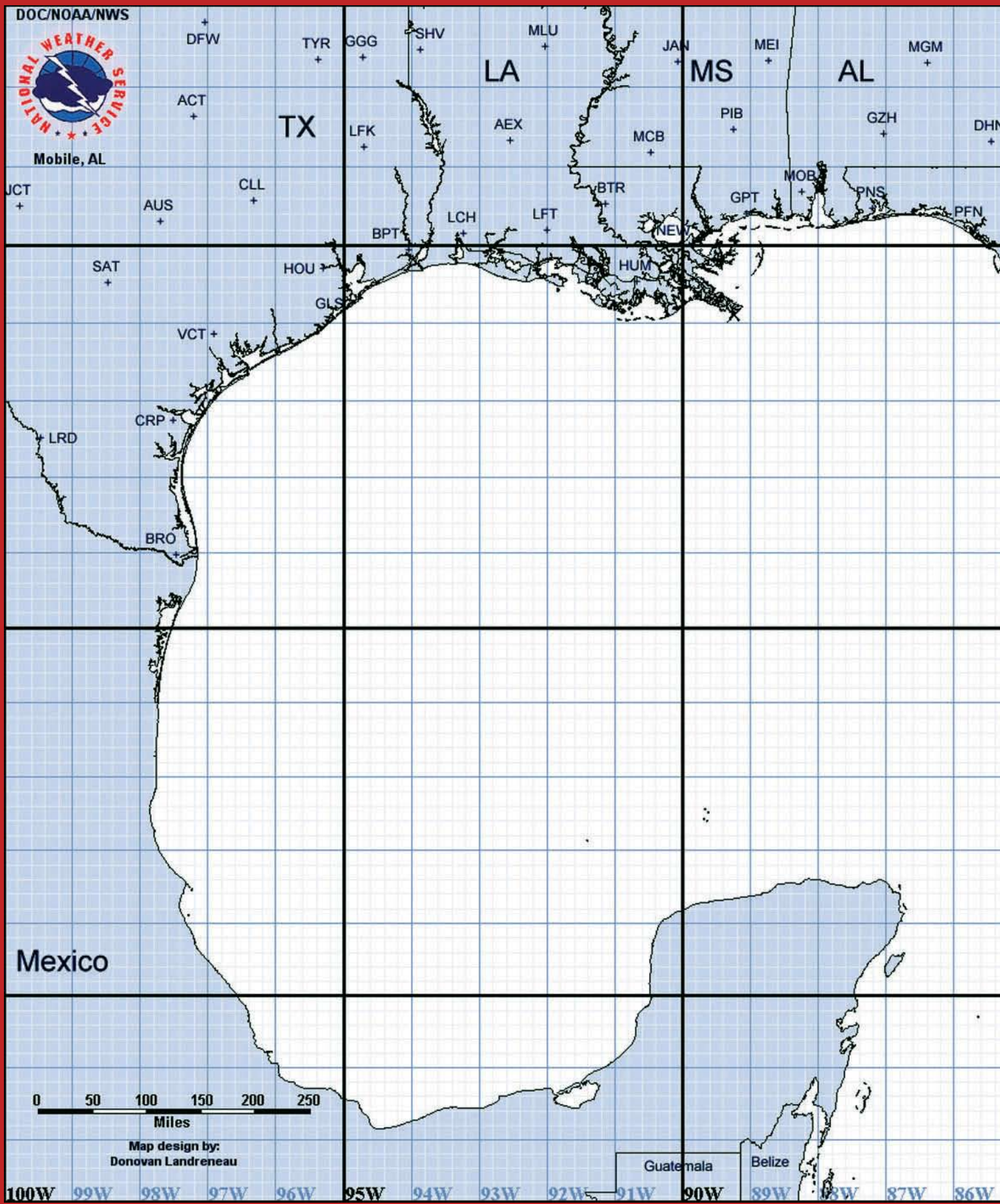
The accompanying map shows the names and locations of all NOAA Weather Radio transmitters located in the state of Alabama. Transmitters shown in yellow are maintained by NWS Huntsville, those in red by NWS Birmingham, and those in blue by NWS Mobile. The names of each of the 67 counties have been included on the map, as well as the SAME codes for each county. For SAME codes for the rest of the United States and adjacent marine areas, visit: www.nws.noaa.gov/nwr/indexnw.htm


National Weather Service office, Mobile

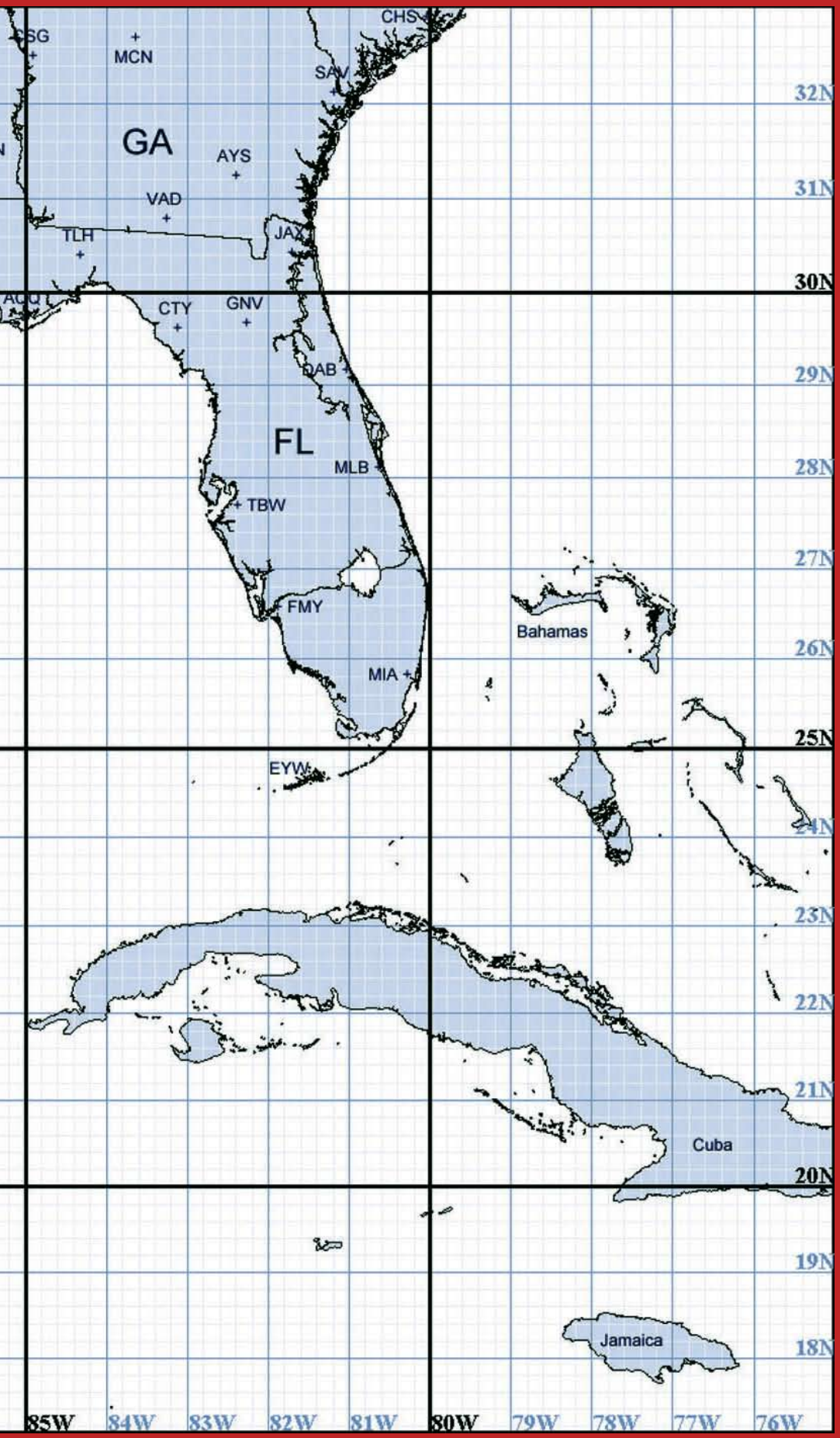
NOAA Weather Radio All Hazards is useful anytime, but it becomes especially important during severe weather. During threatening weather, normal broadcasts are interrupted, and the focus is shifted to the local severe weather threat. Watches and warnings are given the highest priority and are frequently updated.

NWS is a major part of the Emergency Alert System (EAS) that disseminates critical warning information rapidly through commercial broadcast outlets. In an emergency, each NWR station will transmit a warning alarm tone signal followed by information on the emergency situation. This signal is capable of activating specially designed receivers by increasing the volume or producing a visual and/or audible alarm. Though not all weather band receivers have this capability, all weather radios can receive the emergency broadcasts.

Track 2010 Hurricanes! Hurricanes are tracked by the position of th
is the vertical position (noted at the bottom of this map). Latitude is the horiz



e eye of the storm by longitude and latitude. Longitude
ontal position (noted on the right side of this map).



2010 Hurricane Names

- ☐ Alex
- ☐ Bonnie
- ☐ Colin
- ☐ Danielle
- ☐ Earl
- ☐ Fiona
- ☐ Gaston
- ☐ Hermine
- ☐ Igor
- ☐ Julia
- ☐ Karl
- ☐ Lisa
- ☐ Matthew
- ☐ Nicole
- ☐ Otto
- ☐ Paula
- ☐ Richard
- ☐ Shary
- ☐ Tomas
- ☐ Virginie
- ☐ Walter

Planning and Preparation

Proper hurricane preparations made ahead of time will not completely protect your property from damage. However, following a few simple tips may greatly reduce the damage to your home and property.

Important Home Preparation Tips for Hurricane Season

Elevation Matters

Know the elevation of your home! Are you in a flood and/or evacuation zone?

Mobile Homes:

Check tie-downs for rust or breakage.

Residents of mobile homes must evacuate when told to do so!!

Landscaping

Trim trees, shrubbery and dead limbs, especially ones close to your home.

Repair or replace broken or damaged fences.

Shredded bark is preferred instead of small gravel or stone bedding.

Roofing

Inspect the roof for loose tiles, shingles or debris. Consider replacing old or damaged shingles with new ones rated for hurricane force winds.

Check for and/or install hurricane clips to secure roof trusses to side walls.

Clear loose and clogged rain gutters and downspouts.

Doors

Reinforce garage doors and tracks or replace with a hurricane tested door.

Reinforce double entry doors with heavy duty foot and head bolts.

Use a security dead bolt with a one inch minimum bolt length.

Doors may be shuttered, but one entry must be left easily accessible.

Windows

If possible, install tested/manufactured hurricane shutters.

Inspect existing shutters to ensure they are in good working order.

Alternative: Use 5/8” or greater exterior grade plywood secured by 2 ½” screws or special clips. Obtain wood and fasteners, cut wood to size (labeling pieces), pre-drill holes and place anchors on homes. When not in use, store shutters or plywood lying flat to avoid warping.

Planning and Preparation

Citizens with Disabilities and Special Needs

Planning ahead is key in any emergency. Identifying potential hazards ahead of time can reduce the dangers of serious injury or loss of life.

Don't be afraid to ask for help if you think you will need it.

Prepare in advance with neighbors, family or caregivers. Your community may have a way to register with your local emergency management agency so they are aware of your special needs.

Develop an emergency communications plan. Ask an out-of-state relative or friend to serve as the "family contact". Make sure everyone in the family knows the name, address and phone number of the contact.

Make sure that you have a supply kit and that it is maintained to meet **your special requirements**.

Stay informed about what is happening and what public officials are asking citizens to do. Be prepared to follow their instructions.

For more information contact:

The Governor's Office on Disability: http://www.good.alabama.gov/

Alabama Department of Rehabilitation Services: http://www.rehab.state.al.us

Protecting Your Boat – Marine Preparations

Important tips for boat owners

- ☐ Check your marina contract for policies and procedures for hurricanes.
- ☐ Check with the manufacturer for proper ways to secure your boat during a storm.
- ☐ Consider moving arrangements well in advance of an approaching storm.
- ☐ Trailer boats should be removed from the water and securely stored at least 48 hours before a hurricane is expected to make landfall.
- ☐ Purchase necessary hurricane materials such as additional mooring lines, crew anchors, fenders, fender boards, chafing gear, and anchors.
- ☐ Safe storm moorings should consist of good condition ropes of sufficient diameter and length, with at least three to four substantial anchor points.
- ☐ Do not moor parallel to bank. Receding tides often breach or capsize boats in this type of anchorage.

Emergency Supply Kit

ESSENTIALS:
- Battery-operated radio
- Flashlight
- Extra Batteries
- First Aid Kit (one for your home and one for each car)

WATER:
- 3 gallons per person, minimum, in a food-grade, plastic container
- Additional water for sanitation

FOOD:
- Minimum 3-day supply of non-perishable food that requires no refrigeration or preparation and little or no water
- Dry cereal
- Peanut butter
- Canned fruits
- Canned vegetables
- Canned Juice
- Ready-to-eat canned meats
- Ready-to-eat soups (not concentrated)
- Quick energy snacks, graham crackers

SANITATION:
- Disinfectant
- Household chlorine bleach
- Soap, liquid detergent
- Toilet paper, towelettes, paper towels
- Personal hygiene items
- Cloth towels (at least 3)
- Feminine supplies
- Plastic bucket with tight lid
- Plastic garbage bags, ties (for personal sanitation use)

CLOTHING & BEDDING:
- Sunglasses
- Rain gear
- Sturdy shoes or work boots
- Blankets or sleeping bags
- Complete change of clothing and footwear per person

TOOLS AND SUPPLIES
- Whistle
- Aluminum Foil
- Crowbar
- Compass
- Paper, Pencil
- Plastic sheeting
- Medicine dropper
- Needles, thread
- Signal Flare
- Matches in a waterproof container
- Assorted nails, wood screws
- Pliers, screwdriver, hammer
- Plastic storage containers
- Heavy cotton or hemp rope
- Cash, traveler's checks, change
- Map of the area
- Non-electric can opener, utility knife
- Charged cell phone battery
- Mess kits, or paper cups, plates and plastic utensils
- Tape, duct tape and plumber's tape or strap iron
- Patch kit and can of seal-in-air for tires
- Shut off wrench, to turn off household gas & water

FOR BABY:
- Formula
- Diapers
- Bottles
- Medication
- Powdered milk
- Baby food

FOR PETS:
- Food, water
- Non-tippable food and water containers
- Leash, harness or carrier
- Records of vaccinations
- Pet Medications
- A picture of you and your pet together
- Sanitation supplies (litter, newspapers, trash bags, disinfectant)

IMPORTANT DOCUMENTS:
- Important telephone numbers
- Record of bank account numbers
- Family records (birth, marriage, death certificates)
- Inventory of household valuables
- Copy of will, insurance policies, contracts, deeds, stock and bonds
- Records of credit card account numbers and companies
- Copy of passport, social security cards, and immunization records

FAMILY MEDICAL NEEDS:
- Insulin
- Prescription drugs
- Heart and high blood pressure needs
- Denture needs
- Extra eye glasses
- Contact lenses and supplies

Taking Care of Pets

To be sure you can properly take care of your pet during a weather emergency, such as a hurricane Katrina, or during an evacuation, you must **plan ahead**. The U.S. Department of Health and Human Services provides the following suggestions.

If you have to leave your home, **take your pet with you if at all possible.** You are the best person to take care of your pet. Also, as the American Veterinary Medical Association (AVMA) pointed out in a brochure it issued about preparing for a disaster, if the situation is dangerous for people, it is dangerous for animals, too.

But, before you leave, know where you can take your pet. Find out which motels or hotels are "pet friendly," or which ones will accept pets in an emergency. Or plan to go to the house of a friend or relative who will permit you to bring your pet.

Before you have to travel, get your pet used to a crate. Familiar surroundings might help ease a pet's anxiety. And getting an animal into a crate for travel will be easier once the animal is used to it.

Take pet food, medicines, vaccination records, and information about pet insurance if you have a policy. Assemble all of this into a disaster kit that you can grab as you leave.

If you get trapped away from your home due to a disaster or other emergency, your pet will be better off if you have already made arrangements with your neighbor or nearby friend to take care of the animal.

The temporary caretaker should have phone numbers to reach you (a cell phone number may be the best), and all the instruction necessary to properly care for the animal. Those instructions should include a signed authorization for veterinary care, and financial limits to the veterinary care.

Emergencies can make pets display unexpected or uncharacteristic behaviors. Well-behaved animals may become aggressive and defensive **after a major disruption** in their lives. The animal may not return to more typical behavior for several weeks. Be careful releasing an animal after an emergency, especially in unfamiliar surroundings. Make sure it cannot escape. Do not release the animal outside until you know the area is safe, AVMA said.

Allow your pet plenty of time to rest and get used to new surroundings. Provide familiar toys, if possible.

The Department of Homeland Security has prepared a detailed brochure entitled "Preparing Your Pets for Emergencies Makes Sense. Get Ready Now." The brochure describes what pet owners can do to prepare for an emergency.

The AVMA has a website, www.avma.org/disaster, which provides detailed disaster preparedness information for owners of all types of animals including dogs, cats, horses, snakes, birds, amphibians, pocket pets, and livestock. The AVMA's brochure, "Saving the Whole Family", contains several useful checklists and important emergency contact numbers.

Final Checklist

Actions to Take When a Storm is in the Gulf of Mexico

- ☐ Listen frequently to radio, TV, or NOAA All Hazards Radio for bulletins and forecasts of the storms progress.
- ☐ Double check items in your emergency supply kit.
- ☐ Fuel and service your vehicles.
- ☐ Inspect and secure mobile home tie-downs.
- ☐ Make sure you have supplies to survive on your own for at least 72 hours, but preferably for up to one week, if you plan on staying.
- ☐ Board up windows (if shutters do not exist). Do not use tape, it provides no protection.
- ☐ Store lawn furniture and other loose, light weight objects, such as garbage cans, patio plants and garden tools.
- ☐ Get plenty of extra cash in case power goes out and ATM's do not work.
- ☐ Garage or store vehicles that are not being used.
- ☐ Follow instructions issued by local officials. **EVACUATE IMMEDIATELY IF ORDERED TO DO SO!**

Final Actions to Take if Leaving

- ☐ Turn off propane tanks.
- ☐ Unplug small appliances.
- ☐ Turn refrigerator and/or freezer to coldest setting.
- ☐ Turn off utilities if ordered to do so.
- ☐ Notify family members of your evacuation plans.
- ☐ Lower water level in swimming pool by one foot.
- ☐ Lock home securely.
- ☐ Board up remaining doors and brace garage door.
- ☐ Take pets with you, if possible.

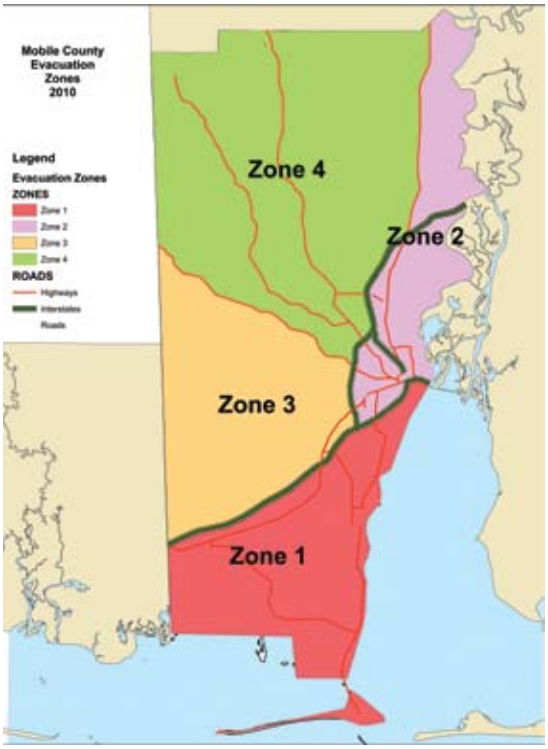
Final Actions to Take if Staying

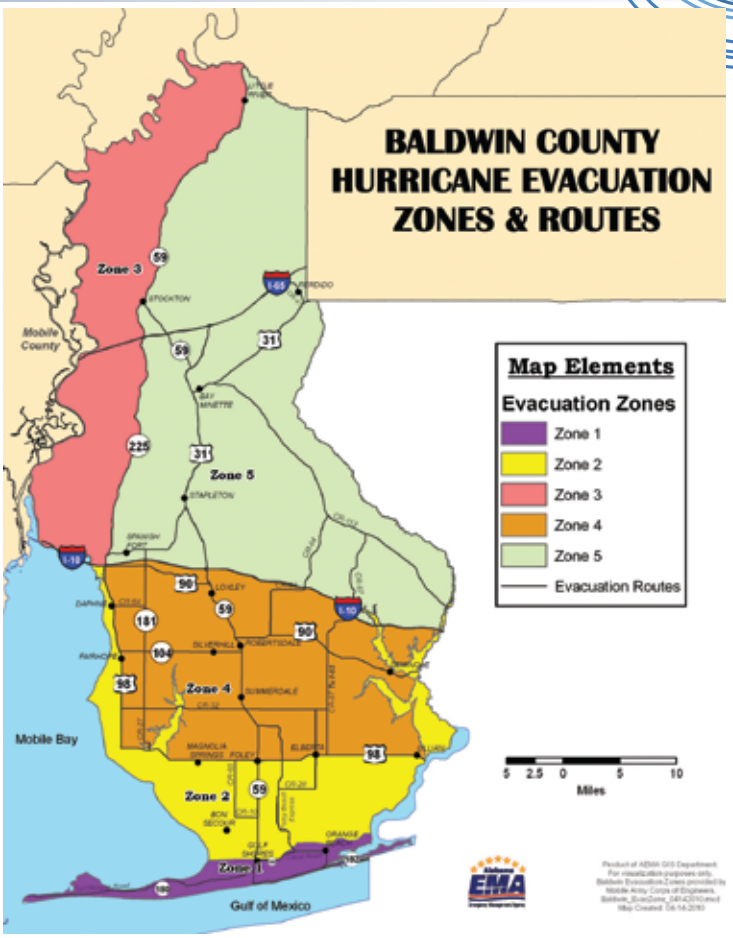
- ☐ Close storm shutters.
- ☐ Turn refrigerator and/or freezer to coldest setting and open only if necessary. (Note: 25 pounds of dry ice will keep a 10-cubic foot freezer below freezing for 3-4 days).
- ☐ Follow instructions from emergency managers and be prepared to turn off utilities if ordered to do so.
- ☐ Board up remaining doors (leave an emergency exit), brace garage door, and remain inside. Stay away from boarded up windows.
- ☐ Take refuge in a predetermined safe room, such as an interior closet, bathroom or hallway.
- ☐ Beware of the calm winds in the eye of the storm and do not venture outside. Some of the strongest winds may occur shortly after the eye passes.
- ☐ **DO NOT EXPECT EMERGENCY RESPONDERS TO BE OF ANY ASSISTANCE DURING A LANDFALLING HURRICANE!**

Evacuation Information

Know your evacuation zone!

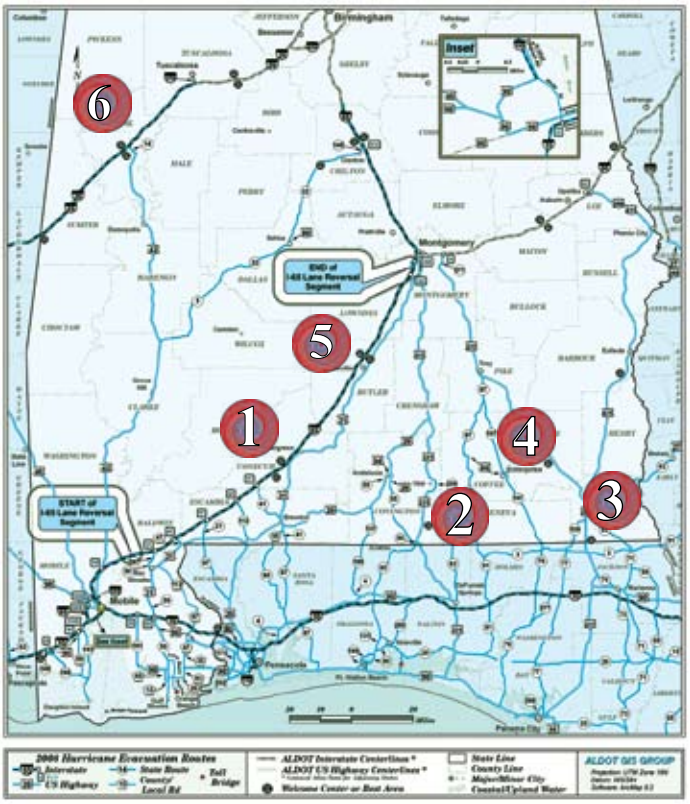
Listen to local radio and television to determine what route to take as you evacuate!





Rest Areas and Welcome Centers Northbound

1. Rest Area, I-65, milepost 84.5
   If all lanes are flowing north the Rest Area opposite will be open as well.
2. Rest Area, Hwy 331, milepost 8.3
3. Welcome Center, Hwy 231, milepost 0.7
4. Rest Area, Hwy 231, milepost 37.7
5. Rest Area, I-65, milepost 213.2
   If all lanes are flowing north the Rest Area opposite will be open as well.
6. Rest Area, I-59N/I20E, milepost 38.5



map courtesy of the Alabama Department of Transportation

Food and Water Safety

Emergencies can happen. When they do, the best strategy is to already have a plan in place. This includes knowing the proper food and water safety precautions to take if hurricanes—or other flooding/power outages—do occur.

Be Prepared for Emergencies

1. Make sure you have appliance thermometers in your refrigerator and freezer.
   Check to ensure that the freezer temperature is at or below 0 °F and the refrigerator is at or below 40 °F. In case of a power outage, the appliance thermometers will indicate the temperatures in the refrigerator and freezer to help you determine if the food is safe.
2. Freeze containers of water for ice to help keep food cold in the freezer, refrigerator, or coolers in case the power goes out. If your normal water supply is contaminated or unavailable, the melting ice will also supply drinking water.
3. Freeze refrigerated items such as leftovers, milk, and fresh meat and poultry that you may not need immediately. This helps keep them at a safe temperature longer.
4. Group food together in the freezer. This helps the food stay cold longer.
5. Have coolers on hand to keep refrigerated food cold if the power will be out for more than 4 hours.
6. Purchase or make ice cubes in advance and store in the freezer for use in the refrigerator or in a cooler. Freeze gel packs ahead of time for use in coolers.
7. Check out local sources to know where dry ice and block ice can be purchased, just in case.
8. Store food on shelves that will be safely out of the way of contaminated water in case of flooding.
9. Make sure to have a supply of bottled water stored where it will be as safe as possible from flooding.

When the Power Goes Out

Here are basic tips for keeping food safe:

1. Keep the refrigerator and freezer doors closed as much as possible to maintain the cold temperature.
   The refrigerator will keep food cold for about 4 hours if it is unopened.
   A full freezer will keep the temperature for approximately 48 hours (24 hours if it is half full) if the door remains closed.
   Buy dry or block ice to keep the refrigerator as cold as possible if the power is going to be out for a prolonged period of time.
   Fifty pounds of dry ice should hold an 18-cubic foot fully-stocked freezer cold for two days.
2. If you plan to eat refrigerated or frozen meat, poultry, fish or eggs while it is still at safe temperatures, it's important that each item is thoroughly cooked to the proper temperature to assure that any foodborne bacteria that may be present is destroyed. However, if at any point the food was above 40 °F for 2 hours or more discard it.
3. Wash fruits and vegetables with water from a safe source before eating.
4. For infants, try to use prepared, canned baby formula that requires no added water. When using concentrated or powdered formulas, prepare with bottled water if the local water source is potentially contaminated.

Once Power is Restored

You'll need to determine the safety of your food. Here's how:

1. If an appliance thermometer was kept in the freezer, check the temperature when the power comes back on. If the freezer thermometer reads 40°F or below, the food is safe and may be refrozen.
2. If a thermometer has not been kept in the freezer, check each package of food to determine its safety. You can't rely on appearance or odor. If the food still contains ice crystals or is 40°F or below, it is safe to refreeze or cook.
3. Refrigerated food should be safe as long as the power was out for no more than 4 hours and the refrigerator door was kept shut. Discard any perishable food (such as meat, poultry, fish, eggs or leftovers) that has been above 40°F for two hours or more.

Keep in mind that perishable food such as meat, poultry, seafood, milk, and eggs that are not kept adequately refrigerated or frozen may cause illness if consumed, even when they are thoroughly cooked.

Food and Water Safety

When Flooding Occurs — Keep Water Safe

Follow these steps to keep your WATER SAFE during and after flood conditions.

1. Use bottled water that has not been exposed to flood waters if it is available.
2. If you don't have bottled water, you should boil water to make it safe. Boiling water will kill most types of disease-causing organisms that may be present.

   If the water is cloudy, filter it through clean cloths or allow it to settle, and draw off the clear water for boiling.

   Boil the water for one minute, let it cool, and store it in clean containers with covers.

   If you can't boil water, you can disinfect it using household bleach. Bleach will kill some, but not all, types of disease-causing organisms that may be in the water.

   If the water is cloudy, filter it through clean cloths or allow it to settle, and draw off the clear water for disinfection.

   Add 1/8 teaspoon (or 8 drops) of regular, unscented, liquid household bleach per each gallon of water. Stir it well and let it stand for at least 30 minutes before you use it.

   Store disinfected water in clean containers with covers.
3. If you have a well that has been flooded, the water should be tested and disinfected after flood waters recede. If you suspect that your well may be contaminated, contact your local or state health department or agriculture extension agent for specific advice.

When Flooding Occurs — Keep Food Safe

Follow these steps to keep your FOOD SAFE during and after flood conditions.

1. Do not eat any food that may have come into contact with flood water.
2. Discard any food that is not in a waterproof container if there is any chance that it has come into contact with flood water.

   Food containers that are not waterproof include those with screw-caps, snap lids, pull tops, and crimped caps.

   Also, discard cardboard juice/milk/baby formula boxes and home canned foods if they have come in contact with flood water, because they cannot be effectively cleaned and sanitized.
3. Inspect canned foods and discard any food in damaged cans. Can damage is shown by swelling, leakage, punctures, holes, fractures, extensive deep rusting, or crushing/denting severe enough to prevent normal stacking or opening with a manual, wheel-type can opener.
4. Undamaged, commercially prepared foods in all-metal cans and "retort pouches" (like flexible, shelf-stable juice or seafood pouches) can be saved if you follow this procedure:

   Remove the labels, if they are the removable kind, since they can harbor dirt and bacteria.

   Brush or wipe away any dirt or silt.

   Thoroughly wash the cans or retort pouches with soap and water, using hot water if it is available. Rinse the cans or retort pouches with water that is safe for drinking, if available, since dirt or residual soap will reduce the effectiveness of chlorine sanitation.

   Sanitize cans and retort pouches by immersion in one of the two following ways:

      Place in water and allow the water to come to a boil and continue boiling for 2 min., or

      Place in a freshly-made solution consisting of 1 tablespoon of unscented liquid chlorine bleach per gallon of drinking water (or the cleanest, clearest water available) for 15 minutes.

   Air dry cans or retort pouches for a minimum of 1 hour before opening or storing.

   If the labels were removable, then re-label your cans or retort pouches, including the expiration date (if available), with a marking pen.

   Food in reconditioned cans or retort pouches should be used as soon as possible thereafter.

   Any concentrated baby formula in reconditioned, all-metal containers must be diluted with clean, drinking water.

Food and Water Safety

Utensils and home surfaces need special care:

1. Thoroughly wash metal pans, ceramic dishes, and utensils (including can openers) with soap and water, using hot water if available. Rinse, and then sanitize them by boiling in clean water or immersing them for 15 minutes in a solution of 1 tablespoon of unscented, liquid chlorine bleach per gallon of drinking water (or the cleanest, clearest water available).
2. Thoroughly wash countertops with soap and water, using hot water if available. Rinse, and then sanitize by applying a solution of 1 tablespoon of unscented, liquid chlorine bleach per gallon of drinking water (or the cleanest, clearest water available). Allow to air dry.

Portable Generator Safety

After a hurricane, primary electrical power will likely be off for hours, or even days after the storm. During this time, many people use portable power generators to run some essential utilities such as lighting, air conditioning and refrigeration. However, running a portable generator creates certain inherent hazards and dangers, and every year people are injured or killed in incidents related to portable generator use.

The primary hazards to avoid when using a portable generator are carbon monoxide (CO) poisoning from the toxic engine exhaust, electrical shock or electrocution, and fire. Follow the directions supplied with the generator.

- Under no circumstances should portable generators be used indoors. Including inside a garage, carport, basement, crawlspace, or other enclosed or partially-enclosed area, even with ventilation. Opening doors and windows, or using fans, will not prevent the buildup of CO in the home. Even if you cannot smell exhaust fumes, you may still be exposed to CO. If you start to feel sick, dizzy, or weak while using a generator, get to fresh air RIGHT AWAY – DO NOT DELAY.
- Be sure to place the generator AWAY from windows, doors and vents that could allow CO to come indoors.
- Keep the generator dry and do not use in rain or wet conditions. To protect the generator from moisture, operate it on a dry surface under an open canopy-like structure, such as under a tarp held up by poles. Dry your hands if wet before touching the generator.
- Be sure to turn the generator off and let it cool down before refueling.
- Plug appliances directly into the generator. Or, use a heavy duty, outdoor-rated extension cord that is rated (in watts or amps) at least equal to the sum of the connected appliance loads. Check that the entire cord is free of cuts or tears and that the plug has all three prongs, especially a grounding pin. Never try to power the house wiring by plugging the generator into a wall outlet, a practice known as "backfeeding". This is an extremely dangerous practice that presents an electrocution risk to utility workers and neighbors served by the same utility transformer.

For more information on generator safety, please call the American Red Cross Alabama Gulf Coast Chapter at 251-438-2571, or visit them online at www.redcrossalcoast.org

After the Storm

IF YOU EVACUATED, WAIT FOR AN ALL CLEAR FROM CITY, COUNTY OR STATE OFFICIALS BEFORE ATTEMPTING TO RETURN TO YOUR HOME. BE PREPARED TO SHOW PROOF OF RESIDENCE UPON RETURN.

General

- Be cautious of structural damage and downed trees and power lines. Do not attempt to move structural supports or large pieces of debris.
- DO NOT run power generators indoors. Inhalation of carbon monoxide from the generator exhaust can cause death. Ensure exhaust is well ventilated.
- DO NOT use open flames indoors.
- Restrict your driving to emergency use only. Road conditions may be unsafe until road debris is cleared.

Debris

- Cities and counties will likely publish a schedule and instructions for debris pick-up and removal. Debris usually cannot be removed from private property.
- Construction materials, vegetative debris, household hazardous waste and household appliances will need to be placed into separate piles and moved to the curbside for pick-up.

Water

- Listen for instructions regarding public water supply. Use only bottled, boiled or treated water until you know that your water supply is safe.
- You can use household chlorine bleach to treat water for drinking or cleaning. Add 1/8 teaspoon of bleach per gallon of clear water, or ¼ teaspoon of bleach per gallon if water is cloudy. Allow water to stand for 30 minutes before using.

Utilities

- Check for gas leaks. If you smell or hear gas leaking, leave immediately. DO NOT use the phone or turn on lights in your home. Call the gas company from a neighbors phone.
- Report any visible damage of electrical lines to the power company. Turn off power at main breaker if any electrical equipment or circuits have been exposed to water.
- DO NOT connect generators to your home's electrical circuits. If a generator is on line when electrical service is restored, it can become a major fire hazard. Also, line workers working to restore power will be endangered if a generator is hooked up to a home's circuits.

Sewage

- If you suspect water or sewage lines are damaged, do not use your plumbing (toilets, sinks, etc.). Contact the water company or a plumber for repairs.

Interior Cleanup

- Disinfect and dry interior buildings and items inside. This will prevent growth of some bacteria, viruses, mold and mildew that can cause illness.
- Clean walls, floors, and counter tops with soap and water. Disinfect them with a solution of 1 cup bleach to 5 gallons of water.
- Wash all clothes and linens in hot water. Air dry and spray all un-washable items with disinfectant. Steam clean carpets. Throw away all items touched by water than cannot be disinfected.

A communication plan that includes out of state contact numbers for your family is essential during a disaster. If you lose contact with your family pay attention to local and national media for ways to reconnect.

Where to get more information

National Weather Service
www.srh.noaa.gov

North Alabama
Huntsville Weather Forecast Office
David Nadler or Mike Coyne
256-890-8503
320 Sparkman Drive
Huntsville, AL 35805
WWW.SRH.NOAA.GOV/HUN

Central Alabama
Birmingham Weather Forecast Office
John DeBlock or Jim Stefkovich
205-664-3010
465 Weathervane Road
Calera, AL 35040
WWW.SRH.NOAA.GOV/BMX

Coastal and Southwest Alabama
Mobile Weather Forecast Office
Jeff Garmon or David McShane
251-633-6443
8400 Airport Blvd Bldg, 11
Mobile, AL 36608
WWW.SRH.NOAA.GOV/MOB

Southeast Alabama
Tallahassee Weather Forecast Office
Jeff Evans or Paul Duval
850-942-8833
Love Building, Florida State University
Tallahassee, FL 32306
WWW.SRH.NOAA.GOV/TAE

Alabama Emergency Management Agency
Yasamie Richardson or Lauree Ashcom, 205-280-2312
PO Box 2160, Clanton, AL 35046, www.ema.alabama.gov

Baldwin County Emergency Management, 251-972-6807, www.co.baldwin.al.us/ema

Mobile County Emergency Management, 251-460-8000, www.mcema.net

Additional local emergency management office information is available at www.ema.alabama.gov. Click on the County EMA tab.

Hurricane fun for kids!

NWS Jetstream Online Weather School:
http://www.srh.noaa.gov/srh/jetstream/tropics/images/owlie_hurr.pdf

Hurricane Strike, An Interactive Tool for Middle School Teachers:
https://www.meted.ucar.edu/hurrican/strike/

Sesame Workshop: http://www.sesameworkshop.org/initiatives/emotion/hurricane